Abstract

The present invention provides an apparatus generating a magnetic field, coined a "superconducting permanent magnet apparatus," that magnetize bulk superconductors into pseudo-permanent magnets, which offer a large, usable space having a strong magnetic field. The superconducting permanent magnet apparatus according to this invention includes: a magnetic pole assembly that holds in a thermally insulated condition, a composite bulk composed of a plurality of bulk superconductors which are arranged in parallel with each other within a vacuum vessel. A stand (i) holds at least a plurality of said magnetic pole assemblies each in a predetermined orientation, and (ii) is movable in a condition that said magnetic pole assemblies are mounted thereon. A cooling part of a freezer is mounted on said magnetic pole assembly. A vacuumizing apparatus being a vacuum pump is connected to said magnetic pole assembly via a vacuum pipe. The composite bulk in said vacuum vessel is fixed to a flange of said magnetic pole assembly to which the vacuum vessel is fixed using a resin-based structural member having a heat-insulating property.